

# AIR QUALITY GLADSTONE

## HUMAN HEALTH

Airborne particles that are in the air at high levels can be harmful to Human Health. Potential health effects are closely related to particle size.



Human Health is 1 of 2 regional air quality trend indicators; it indicates the effectiveness of management approaches in ensuring good air quality.

Regional air quality trends show numbers of poor, fair and good air quality days for each year for Human Health.

The most common particle sizes that are monitored include:

- **PM2.5** (particles less than 2.5 micrometres in diameter).
- **PM10** (particles less than 10 micrometres in diameter)

Human Health in Gladstone is affected by:

- population rise
- increased vehicle emissions
- industrial activity



### Standards of Human Health:

- 0.10 parts per million (ppm) of ozone
- 0.12ppm of nitrogen dioxide
- 0.20ppm of sulfur dioxide
- 9.0ppm of carbon monoxide
- 50 micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ) of PM10 (daily average)
- 25 micrograms per cubic metre ( $\mu\text{g}/\text{m}^3$ ) of PM2.5 (daily average)

Airborne particles can come from:

- **combustion processes**, such as engines and power stations
- **non-combustion processes**, such as road works



So far in 2019, Gladstone has displayed **0 Poor** Air Quality Days and **179 Good** Air Quality Days, for Human Health.

The QLD Government monitors Human Health as an indicator of air quality in South East QLD, South West QLD, Gladstone, Central QLD, Townsville and Mount Isa.

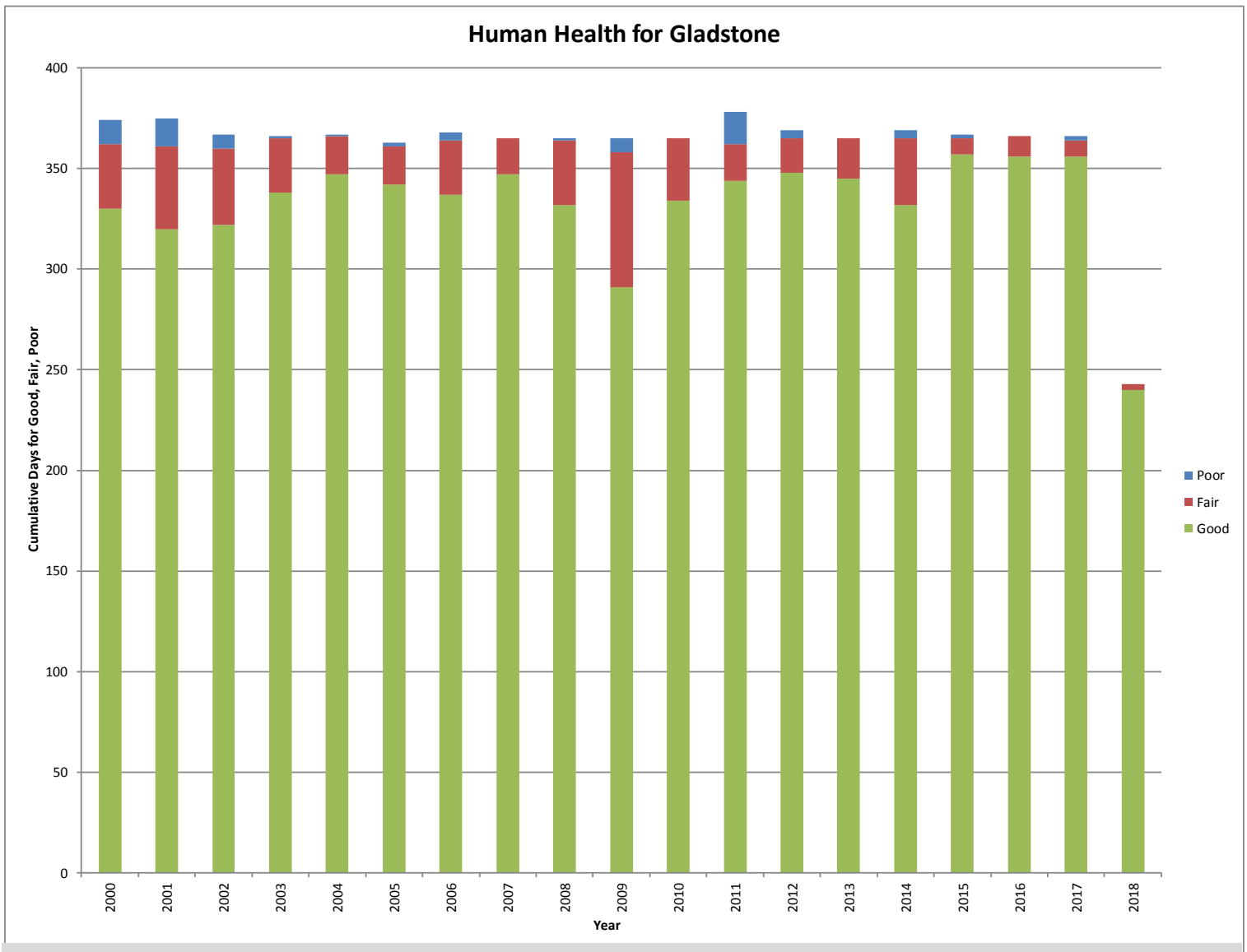
**Poor Days** = at least 1 National Environment Protection Measure for Ambient Air Quality (Air NEPM) monitoring station does not meet 1 or more NEPM air quality standards.

**Fair Days** = all NEPM stations were within the standards but at least 1 station reached at least 1/2 the standard for 1 or more pollutants.

**Good Days** = all NEPM stations were below 1/2 the standards.

In comparison to South East QLD so far in 2019 for Human Health:

- Gladstone and South East QLD have had 0 Poor Days.
- Gladstone experienced 179 Good days, compared to South East QLD, which had 131 Good days.



# Summary of Human Health Trend Graph for Air Quality Fact Sheet

The graph displays the poor, fair and good air quality days for human health in Gladstone from 2000-2018. Data was gathered from the air quality monitoring stations in the Gladstone region.

Gladstone experienced the greatest number of poor air quality days for human health (7) in both 2009 and 2018. In 2003, 2004, 2007, 2010 and 2013-2016 there were zero poor days. The number of poor days have fluctuated without a strong trend, however a consistent measurement of 0 is evident from 2013 to 2016.

In the past, the highest number of fair air quality days for human health in Gladstone was seen in 2009 (67), and the lowest (8) in 2015 and 2017. From 2000-2018 the number of fair and good air quality days for human health have fluctuated without a strong decreasing or increasing trend evident.

The highest number of good air quality days for human health in Gladstone (357) was seen in 2015, and the lowest (291) in 2009. Over the past 18 years, the number of good air quality days for human health has consistently largely exceeded the number of poor and fair air quality days.